

that can be remotely read by radio frequency communication. In this manner, law enforcement personnel can more easily locate concealed stolen integrated circuits and can verify, via the serial number, that the property in question is indeed stolen.<sup>1</sup>

Specifically, to locate suspected stolen integrated circuits, security personnel position an interrogator transceiver near the suspected location of the integrated circuits, point the antenna of the interrogator transceiver toward the suspected location, and operate a switch which causes the interrogator transceiver to transmit an RF signal encoded with a predetermined interrogation message. When integrated circuits receive the interrogation message, they respond and identify themselves.

To accomplish this objective, Tuttle provides a conventional integrated circuit package comprising a "main" circuit 1 which performs the primary function that makes the integrated circuit useful, and an "ID" circuit 2 which stores an identifying serial number. Tuttle's "main" circuit 1 does not control "operations" based on the serial number stored in the "ID" circuit. To the extent that there is any interface between the Tuttle "main" circuit and its "ID" circuit, this interface is only for the purposes of decrypting and/or validating the serial number.

The ID circuit 2 includes an ID number memory circuit 3 (where the identifying number is input and stored) and a radio frequency (RF) transceiver circuit 4 which transmits a message conveying the stored serial number in response to a predetermined RF interrogation signal. Tuttle specifically states that "[t]he ID number memory 3 preferably is configured during manufacture of the integrated circuit 10 or 20 so as to store a number which identifies the I.C. 10 or 20."

Thus, Tuttle does not show or suggest "a processor for controlling operations of the transceiver based on initial configuration information" (claims 1-8 and 17-20) and/or "transmitting the initial configuration information from a source external to the wireless

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1. Additionally or alternatively, the Tuttle method of serial-number-encoding allows semiconductor manufacturers to perform inventory functions without having to rely on bar code labels (which are apparently too big for most integrated circuit packages to accommodate). For inventory tracking, the invention permits a large number of integrated circuit inventory items to be tracked by a remotely located interrogator transceiver. In contrast, conventional inventory tags require the tag to be held very close to a scanner such as a bar code reader for individual scanning of each inventory item.

communication device so as to be received by the passive tag" (claims 9-16). Tuttle does not teach transmitting the serial number from an external source, but instead specifically teaches "installing" this number during the manufacture of the device.<sup>2</sup>

Moreover, a wireless transmission of the serial number would seem to conflict with Tuttle's anti-theft objectives. The reference teaches that re-writable memory has the "disadvantage of possibly being re-writable by a thief."<sup>3</sup> To protect against such alternation by a thief, the memory circuit is constructed so that the write enable input is not connected to any contact external to the circuit-enclosing dielectric package. The identification number is stored in the memory before the IC is mounted in its package by using a wafer probe to provide signals to the write enable input. After the identification number is stored in the memory, the IC is encapsulated in a package thereby protecting the memory from being re-written. Accordingly, the transmission of the Tuttle serial number from an external source would appear to destroy the very safeguards this patent very purposely erects to avoid any rewriting.

The Examiner admits in the Office Action that Tuttle "does not describe wireless writing to the memory through the transponder" but that he asserts that it would have been obvious to modify Tuttle to include such wireless writing in view of Ward or Anders. However, such a modification would destroy the anti-theft objectives of the Tuttle invention. Thus, whatever teachings Ward may provide in the way of wireless

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2. "The ID number memory 3 preferably is configured during manufacture of the integrated circuit 10 or 20 so as to store a number which identifies the I.C. 10 or 20. For example, the identifying number can be a customer number, model number, or production batch number. More preferably, however, the identifying number is a serial number which uniquely identifies each integrated circuit 10 or 20 so that no two I.C.'s have the same serial number. Preferably, the memory 3 can store a number having enough bits to allow a unique serial number to be assigned to every integrated circuit 10 or 20 incorporating the invention which is expected to be manufactured for many years."

3. Permanent memory has the advantage of preventing thieves from altering the stored identification number. However, it has the disadvantage of storing the identification number by the physical locations of transistors or conductors, which thieves possibly could examine with an optical or electron microscope to read the identification number.

read/writes, and/or whatever teachings Anders may provide regarding wireless configuration, the proposed combination cannot be considered obvious.

The Examiner further contends that his proposed Tuttle/Ward-Anders combination "is suggested by both systems using Ethernet protocols and addresses."<sup>4</sup> Specifically, "[i]f programming of the network address is not clear, then such would have been obvious in view of Tuttle '174 disclosing in col. 4, lines 8-14 that the memory is programmed in the same manner as Ethernet local area transceivers, because Anders includes wireless programming of a transponder memory from an interrogator and because applicant's disclosure admits that it is well known to wirelessly program Ethernet configuration."<sup>5</sup>

It is respectfully submitted that Tuttle's comments towards Ethernet relate solely to storing a unique Ethernet physical device address during manufacture. Specifically, the reference notes that:

Suitable designs for non-volatile memory 3, and suitable methods for storing in the memory a unique serial number for each I.C. die 10 or I.C. hybrid package 20 as it is manufactured, are commonly used in making conventional Ethernet local area network transceivers." Such transceivers include a non-volatile memory which stores a unique Ethernet physical device address.<sup>6</sup>

The Examiner is asked to please note that the issue is not whether the Tuttle serial number **could** be wireless transmitted, but whether if doing so would have been obvious in view of the applied prior art. It is respectfully submitted that it would not.

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4. According to the Examiner, "Ward discloses an analogous self powered memory ID tag where a memory 11 includes RF interface 130 to communicate with an RFID tag and serial interface to communicate with an attached device" and "Anders discloses an analogous art passive transceiver or transponder which can be attached to an external circuit and its address programed by an active transceiver or interrogator."

5. Regarding the comment that "applicant's disclosure admits that it is well known to wirelessly program Ethernet configuration," the Examiner is asked to please point to the passage in applicant's disclosure which makes this admission, so that his concerns on this matter may be more fully addressed.

6. Tuttle, column 4, lines 8-14, emphasis added.

Even if Ward and/or Anders provide teachings that the Tuttle serial number **could** be wirelessly transmitted, they do not provide any suggestion that the Tuttle serial number **should** be wirelessly transmitted. Specifically, the secondary references do not provide any insight on how this wireless transmission could be accomplished without destroying Tuttle's anti-theft objectives. Without this insight, one would not be motivated to make the modification proposed by the Examiner. To the extent that Ward and/or Anders might provide some direction on transmission procedures after such a modification had been made, this hindsight direction does not cure the shortcomings of the applied art.<sup>7</sup>

### ***Conclusion***

In view of the foregoing, the present application is believed to be in a condition for allowance and an early indication to that effect is earnestly solicited.

Should a petition for an Extension of Time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988, Order No. TELNP0163US.

Respectfully submitted,

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7. Whatever Thompson's teachings may be on separate transceivers, it does not cure these shortcomings.



CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

Date:

January 8, 2003

Marian E. Vasquez

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